



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,826	01/15/2004	Lim Mao Ding	70030842-1	7131

7590 05/20/2005  
AGILENT TECHNOLOGIES, INC.  
Intellectual Property Administration  
Legal Department, DL 429  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER

NGUYEN, MINH T

ART UNIT PAPER NUMBER

2816

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/758,826

Applicant(s)

DING, LIM MAO

Examiner

Minh Nguyen

Art Unit

2816

*(Signature)*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Applicant's amendment filed on 3/17/05 has been received and entered in the case. Claims 1-4 are pending. The amendment and argument presented therein overcome the indefiniteness rejection, and therefore, is withdrawn. The objection to the drawings is maintained because the corrected drawings have not been submitted with the reply. New grounds of rejections necessitated by the amendment are needed as set forth below. This action is FINAL.

#### ***Drawings***

2. The drawings are objected to because the RESET SIGNAL lines shown in Figs. 2 and 4 are misplaced. For example, in Fig. 2, the RESET SIGNAL line should be from the Output Register 106 to the Edge Counters 104 and 105 instead of from the Adder 105 to the Edge Counters. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

Art Unit: 2816

Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,614,869, issued to Bland.

As per claim 1, Bland discloses a frequency divider (Fig. 3, the details are shown in Figs. 4A and 4B) comprising:

an input frequency divider (Fig. 3, 2-bit divider 18) for generating an intermediate signal (CLKP) having a frequency of  $f_i$  from an input signal (CLKIN) having a frequency  $f_{in}$ , wherein  $f_{in} = Rf_i$ , R being an integer  $>1$  (shown:  $f_i = 4f_{in}$ , column 4, line 8);

an edge counter (Fig. 4A, edge counter 61, column 4, lines 40-41) that generates a value equal to the number of edges in said intermediate signal that have occurred since a reset signal was generated (column 5, lines 19-21 and 32-39); and

Art Unit: 2816

an output generator (Fig. 4A, the combination of comparator 60 and flip-flop 38) that generates an output signal (CLKOUT) when said edge counter value reaches a value Q (the external programmable V, column 5, lines 19-31) and generates said reset signal (RESET).

As per claim 4, the recited port reads on the port which receives the external programmable V value shown in Fig. 4A as line 50.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,614,869, issued to Bland.

Bland discloses a frequency divider as discussed in claim 1 herein above. He explicitly discloses that the input frequency divider (18) generates an intermediate signal CLKP from an input signal CLK IN having a frequency relationship  $f_{in}=Rf_i$ , wherein R can be varied (column 4, line 8). Bland further explicitly discloses that the frequency divider is used in a feedback loop of a PLL circuit as shown in figure 1 wherein the purpose of the frequency divider 16 in the PLL is to provide a clock signal having comparable frequency as compared to the input reference frequency FREF so that the phase difference between these signals can be compared by the phase comparator 12.

Bland does not explicitly disclose that the input frequency divider generates an intermediate signal from the input signal having a frequency relationship  $f_{in}=f_i$ , i.e.,  $R=1$  as called for in the claim.

However, as held by the court, when general condition is met, varying a parameter is not patentable. In this instant case, Bland teaches a circuit having the structure as recited in the claim wherein the value  $R$  can be varied. Choosing the value of  $R$  to be 1 instead of other integer values is seen as obvious and within the level of one skilled in the art.

It would have been obvious to one skilled in the art at the time of the invention was made to divide the input clock signal CLK IN by one in the Bland's input frequency divider. The motivation and/or suggestion would be to extend the range of the Bland's frequency divider so that a PLL which uses the Bland's frequency divider can receive wider frequency range of the input reference clock signal FREF.

### ***Response to Arguments***

5. Applicant's argument filed 3/17/05 has been fully considered but it is not persuasive.

The applicant's sole argument is that Bland's edge counter 61 is incremented on each rising edge, not each edge as called for in the claim.

The claim does not require any specific edge to be counted, therefore, it is proper to consider to the edges to be counted are the rising edges. The applicant argues that Bland's edge counter does not count the rising and falling edges. However, the claim does not require the edge counter must count rising and falling edges.

*Allowable Subject Matter*

6. Claim 3 is allowed for the reason noted in the previous Office action.

*Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is **571-272-1748**. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2816

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



5/18/05

Minh Nguyen  
Primary Examiner  
Art Unit 2816